Remarks

Applicant appreciates the efforts of the Examiner. Applicant has respectfully traversed all of the Examiner's rejections within the 04/06/06 Office Action. Applicant respectfully requests reconsideration of this application given the arguments provided by the Applicant to the Examiner in this RCE and amendment.

Examiner's 35 U.S.C. 103 Rejections, Along with Applicant's Responses

Claims 1 – 15

Claims 1-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Eng in view of Boughton of record for reasons of record.

Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng in view of Boughton as applied to claims above, and further in view of Narayanan of record for reasons of record.

Applicant's arguments filed 1/13/06 have been fully considered but they are not persuasive.

Applicant argues that there is no motivation within the references to combine the Eng and Boughton patents.

The examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya,* 184 U.S.P.Q. 607. However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re Simon,* 174 U.S.P.Q. 114; *In re McLaughlin,* 170 U.S.P.Q. 209. References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek,* 163 U.S.P.Q. 545.

All that is required to show obviousness is that the applicant "make his claimed invention merely by applying knowledge clearly present in the prior art. Section 103 requires us to presume full knowledge by the inventor of the prior art in the field of endeavor." *In re Winslow,* 151 U.S.P.Q. 48 CCPA (1966).

The Eng patent discloses the electrolytic production of hydrogen peroxide as claimed. The reference does not disclose the purification of the produced hydrogen peroxide by a membrane process. The Boughton reference was cited to teach the purification of hydrogen peroxide to obtain high purity hydrogen peroxide by the use of a membrane, said membrane can be selected to separate a variety of different contaminants (see col. 2, line 38 to col. 5 line 27).

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Eng patent with

the teachings of the Boughton patent, because the Boughton patent teaches the use of membranes to obtain high purity hydrogen peroxide.

Applicant's Response

Applicant herein repeats the previous arguments made in the previous 01/13/06 Office Action Response and Amendment.

As the Examiner appears to agree that there is no teaching or suggestion within Eng to utilize a membrane in the production or the purification of hydrogen peroxide, Applicant assumes that there is agreement on that point. Further, as the Examiner appears to agree that there is no teaching or suggestion within Boughton to form hydrogen peroxide by electrolysis, Applicant assumes that there is agreement on that point.

Applicant would like to present to the Examiner an excerpt from MPEP Section 2143, which states:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations**. (emphasis added)
>
> The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Accordingly, Applicant would like to point out to the Examiner that in the section SUMMARY OF THE INVENTION Boughton states:

> "This invention utilizes a process commonly called reverse osmosis to purify hydrogen peroxide. In the process, a semipermeable membrane is used to separate the impurities from the hydrogen peroxide solution ("feed"), resulting in a purified hydrogen peroxide solution ("permeate") as a product and a stream containing the separated impurities ("concentrate"). The concentrate may be recycled for further processing or may be used in applications requiring a lower level of purity.

> Specifically, the feed which contains undesired metal ionic species and other impurities such as phosphate, nitrate and sulfate ions and organic carbon compounds is forced through a suitable reverse osmosis semipermeable membrane under pressure to reduce the impurity concentrations by one or more orders of magnitude."

Accordingly, Applicant would like to point out to the Examiner that it is not taught or suggested in the Boughton patent to remove from hydrogen peroxide H_2SO_4 or $H_2S_2O_8$ via a reverse osmosis membrane. It is obvious that H_2SO_4 and $H_2S_2O_8$ do not comprise a "metal ionic species". It is submitted to the Examiner that a sulfate ion and H_2SO_4 are distinctly separate; as, a sulfate ion may exist in combination with many cations from the perioidic table. It is further submitted to the Examiner that $H_2S_2O_8$ is a peroxy di-sulfur anion. It is also submitted to the examiner that hydrogen is not a metal. As defined in Hawley's Chemical Dictionary:

> **"Hydrogen.** CAS: 1333-74-0 H2. **Nonmetallic element** of atomic number 1, group A1 of periodic table, atomic weight 1.0079, valence of 1." (emphasis added)

It is also not taught or suggested in the Boughton patent to remove from H_2 H_2SO_4 and/or $H_2S_2O_8$ via a reverse osmosis membrane. Further, there are no H_2 separation processes taught or suggested in the Boughton patent.

In contrast to these arguments , claim 1 of the instant invention reads:

1. A process for the preparation of H_2O_2, wherein
a first stage, electrolysis converts H_2SO_4 into H_2 and $H_2S_2O_8$, and
in a second stage, said $H_2S_2O_8$ reacts to form H_2O_2 and H_2SO_4, wherein
a membrane performs at least one selected from of a group consisting of: separation of said H_2 from said $H_2S_2O_8$, separation of said H_2 from said $H_2S_2O_8$ and said H_2SO_4, separation of said H_2O_2 from said H_2SO_4, separation of said H_2O_2 from said $H_2S_2O_8$, separation of said H_2O_2 and H_2O from said H_2SO_4, separation of said H_2O_2 from said H_2SO_4 and said $H_2S_2O_8$, separation of said H_2O from H_2SO_4, separation of said H_2SO_4 from said $H_2S_2O_8$ and any combination therein.

Accordingly, the Boughton reference does not teach, suggest or motivate one to perform a membrane separation as claimed in the instant invention.

Applicant would like to, present to the Examiner excerpts from section 2141.01 III of the MPEP, which states:

> "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. **Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so**." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references)." (emphasis added)

Applicant refers the Examiner to Applicant's previous arguments regarding a lack of suggestion or motivation within the cited references of Eng and Boughton to modify.

Applicant would also like to present to the Examiner MPEP 21430.01 IV, which states:

> "A statement that modifications of the prior art to meet the claimed invention would have been "'well within the ordinary skill of the art at the time the claimed invention was made'" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness **without some objective reason to combine the teachings of the references**. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000) (Court reversed obviousness rejection involving technologically simple concept because there was no finding as to the principle or specific understanding within the knowledge of a skilled artisan that would have motivated the skilled artisan to make the claimed invention); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide the suggestion to combine references.). (emphasis added)

Applicant provides this reference to the Examiner while Applicant previously presented to the Examiner that the Boughton reference does not teach via a membrane separation of H_2O_2 from H_2SO_4 and/or $H_2S_2O_8$; nor does the Boughton reference teach via a membrane the separation of H_2 from H_2SO_4 and/or $H_2S_2sO_8$.

Claims 16-17

As the Applicant has respectfully traversed the Examiner's combination of Eng and Boughton above regarding claim 1, Applicant should have an allowability of claim 1. With the allowability of claim 1, claims 16 and 17 are allowable as claims 16 and 17 depend upon claim 1. MPEP Section 2143.03 states, "If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious *In re Fine*, 837 F2d. 1071, 5 USPQ 2d 1596 Fed. Cir. 1988.

CONCLUSION

Applicant has respectfully responded to the Examiner's 04/06/06 Office Action. Applicant has respectfully traversed the Examiner's Rejections.

Applicant has added no new claims.

Applicant appreciates the time and the effort afforded by the Examiner in this proceeding.

Applicant herein respectfully requests an allowance certificate for the claims as presented herein.

Respectfully submitted,

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